DOCUMENT RESUME

ED 148 808 95 SP 012 080

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TITLE Tutoring and Social Psychology: A Theoretical Analysis. CSE Report on Tutoring, No. 6.
INSTITUTION California Univ., Los Angeles. Center for the Study of Evaluation.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Nov 77
NOTE 53p.; For related documents, see SP012 074-080

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS Cross Age Teaching; *Interdisciplinary Approach; *Research Needs; *Social Psychology; *Theoretical Criticism; *Tutorial Programs

ABSTRACT

The author uses concepts of social psychology to examine "learning-by-tutoring" tutorial projects designed to enhance the learning of both tutors and tutees by ensuring that tutors are teaching work that they themselves need to practice. Selected areas of social-psychological research are briefly described, and concepts from these areas are applied to tutoring projects. Effects that are widely reported for tutoring projects are shown to correspond to reasonably well established social-psychological processes, and theories from areas of social psychology are shown to predict effects that have not been reported in the literature on tutoring or by practitioners. Using these two approaches the author identifies a number of topics needing empirical testing: (1) main attitudinal effects of the role of tutor; (2) long-term effects of the role of tutor on cognitive functioning; (3) effects of tutoring on social relationships; (4) social effects of tutoring on groups; (5) aptitude treatment interaction and the role of tutor; (6) effects of tutoring on teachers' expectations; (7) training of teachers and tutors; (8) process studies of bases of influence; (9) formative evaluation; (10) the question of payment of tutors; and (11) process studies of influences on tutees. (MJB)

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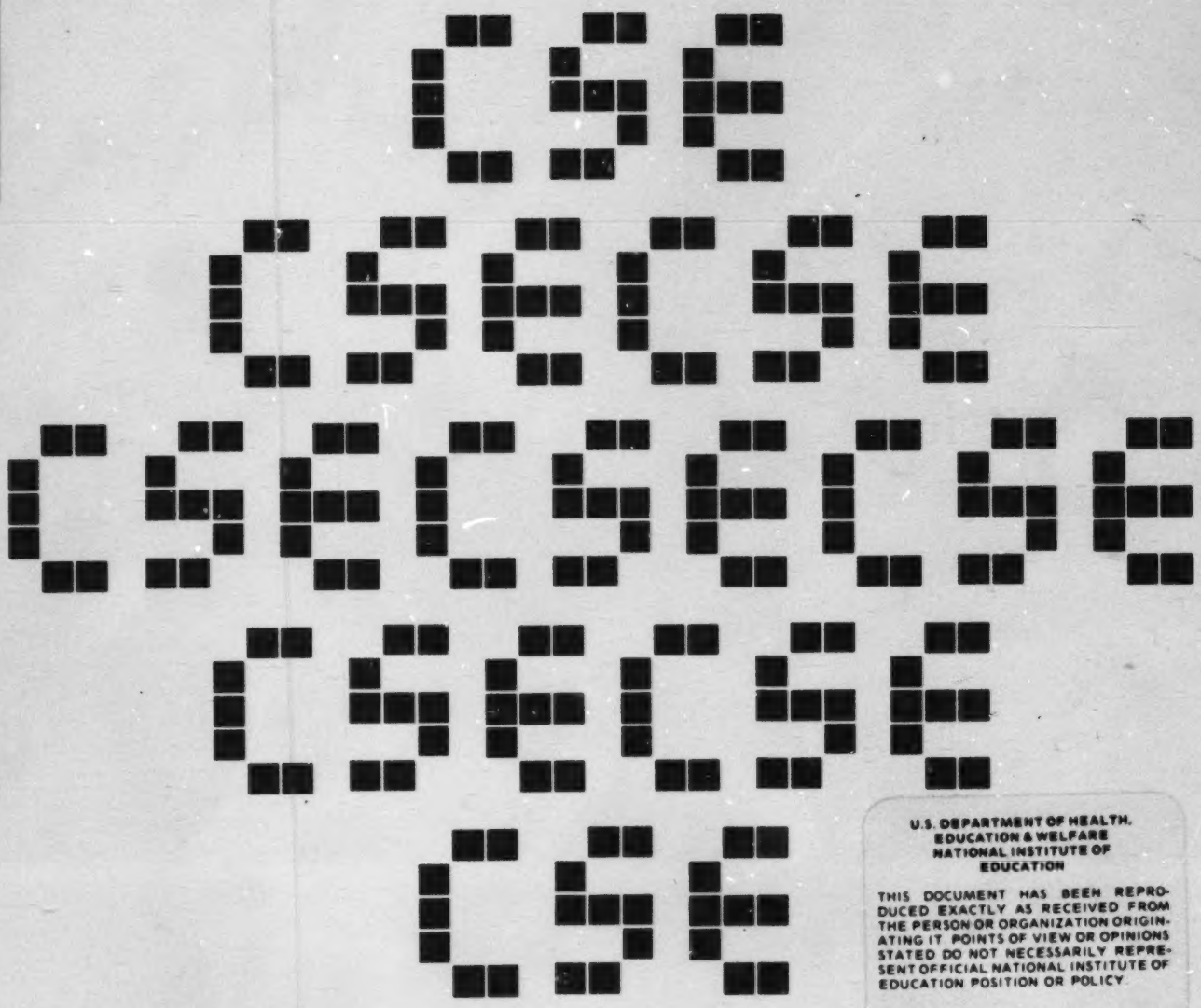

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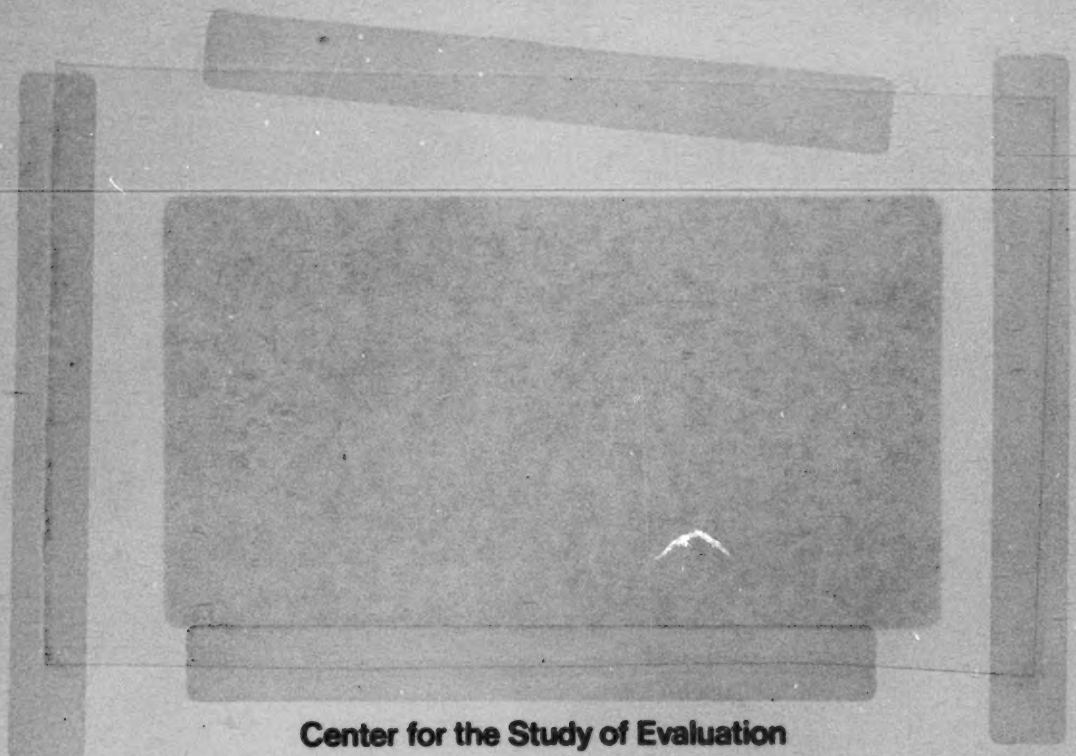

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CSE Report on Tutoring #6:

Tutoring and Social Psychology:

A Theoretical Analysis

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November 1977

This work was performed in part pursuant to a grant [contract] with the National Institute of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official National Institute of Education position or policy.

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PREFACE

The National Institute of Education (NIE) is the agency of the Federal government that is specifically funded to conduct research in education. When the Education Amendments of 1974 were enacted, NIE was directed to prepare studies of compensatory education in order to assist Congress in making decisions regarding the future of efforts to improve the education of disadvantaged youth. The studies were mandated with a view to the reauthorization deliberations for Title I of the Elementary and Secondary Education Act (ESEA), scheduled to take place in 1977.

In connection with these studies, contracts were let for surveys of existing compensatory education programs, analyses of existing data on program effectiveness, research into the implications of alternative criteria for fund-allocations, and research on the administration of compensatory education. In addition, NIE requested "a systematic and interdisciplinary effort to explore alternatives to current practices in education." Four contracts were let for "Alternative Designs to Contrast with Current Practice in Compensatory Education." Each contractor was to produce "a plan of action which is deemed superior to current practice and not prohibitive in cost of implementation."

One of the contracts went to the Center for the Study of Evaluation for a proposal concerned with cross-age tutoring as a means of enhancing the learning and motivation of the tutors (in contrast to current practice in which the learning of the tutee is the primary focus).

An interdisciplinary committee of ten persons was established to meet regularly at UCLA. In addition to working with this committee, project staff undertook to develop an examination of current school practice by means of site visits and detailed questionnaires in schools conducting cross-age tutoring projects. Because the persons who ultimately implement innovations are the instructional staff, it was important to obtain their reactions to the proposed projects. Presentations were made at faculty meetings in inner city schools, followed up with questionnaires, and a small conference was held at which it was possible to obtain more detailed feedback.

Following these activities, an interim report was submitted to nine reviewers selected by NIE. Committee members and reviewers subsequently met together for two days of round-table discussions.

The production of a single final report would have been an inappropriate way of presenting the body of information that project staff had at hand following these activities. For example, much information that would be of interest to teachers and parents planning or running tutoring projects would not be of interest to policy makers and vice versa. Furthermore, although the position had been reached that one particular kind of tutoring project--the Learning-Tutoring Cycle (LTC)--should be recommended for widespread implementation in Title I projects, there was much to be said about the planning of tutoring projects in general and about highly innovative projects which, although not as immediately feasible as the Learning-Tutoring Cycle, could have greater impact if implemented.

In view of this need to speak to various audiences about diverse topics such as theories, research, policy, practical planning and innovative ideas, seven separately bound volumes were prepared: The CSE Reports on Tutoring.

Report A. The Learning-Tutoring Cycle: Overview

Report #1 Setting up and Evaluating Tutoring Projects

Report #2 Tutoring and ESEA Title I

Report #3 A Survey of Tutoring Projects

Report #4 Tutoring: Some New Ideas

Report #5 An Analysis of the Literature on Cross-Age Tutoring

Report #6 Tutoring and Social Psychology: A Theoretical Analysis

These seven reports provide an information base and a rationale for actions at both federal and local levels.

At the local level, the six numbered reports represent a resource for project planning. Three reports--the Survey (#3), the Literature report (#5), and the Social Psychology report (#6)--bring together information from a wide range of sources to provide background knowledge concerning current practice, the perceptions and recommendations of practitioners, past projects, research, and relevant theories.

This background knowledge can inform the design of tutoring projects as well as provide a basis for judging the likelihood of success of such projects. For example, the Social Psychology report demonstrates that many of the effects of tutoring widely noted by practitioners, but not yet established by research on tutoring, have their parallel in recognized effects in the field of Social Psychology. Social-Psychological theories thus suggest variables that can be assessed in research on tutoring and lend support to the perceptions of practitioners.

The three other numbered reports apply the background information to practical school planning concerns. Report #1, through a presentation of step-by-step planning questions, deals with the process of setting up and evaluating tutoring projects in general. Report #2 introduces the ESEA Title I legislation and considers the planning steps, as per Report #1, in relation to the design of an LTC project in conformity with Title I regulations. Report #4 deals with extensions of the idea of learning by tutoring to more ambitious projects, representing more substantial changes in schooling than are involved in the LTC project. Report #4 also documents the reactions of instructional staff and some Title I parents to the Learning-Tutoring Cycle and other proposed kinds of projects.

For the national level, Report A provides an overview of the project and recommendations for action. The actions recommended are designed to put the ideas of this study to the test, to see if the Learning-Tutoring Cycle can indeed significantly improve the educational attainment of disadvantaged students.

ACKNOWLEDGEMENTS

This study has benefitted immeasurably from the thoughtful contributions of many individuals. Members of the committee represented diverse backgrounds and professional experiences, and their deliberations were invariably stimulating and challenging.

Members of the Committee

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We were fortunate in having two ex-officio members of the committee who attended meetings because of their long-standing interest in Tutoring: Elbert Ebersole, formerly Principal, Soto Street Elementary School and now a developer of materials for cross-age tutoring in reading; and Arthur Elliott, a professor on sabbatical leave from Simon Fraser University, Canada. Their contributions were of great value to the project staff and to the committee.

The round table discussions with members of the NIE review team and the receipt of their carefully considered written comments on the interim report led to significant shifts of emphasis in the project, and the author is most grateful for their substantial and thoughtful comments.

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Special thanks are due to the many persons working in schools who met with project staff, conducted site visits or responded to the lengthy questionnaire. Likewise, the teachers and administrators who attended the conference or gave us valuable feedback at their staff meetings are offered sincere appreciation for their contributions.

Richard Mallory of the National Education Association was so kind as to comment extensively and most helpfully on a draft report. The incredible efficiency of Donna Anderson Cuvelier and her great interest in the project provided indispensable daily support. For contributions and guidance throughout the study, the author thanks most particularly Harry F. Silberman and Jack Schwille.

CHAPTER I
INTRODUCTION

Interspersed throughout the psychological literature, in discussing topics as diverse as the effects of family size on intelligence (Zajonc and Markur, 1975), toilet training (Azrin and Foxx, 1974), or cross-cultural rearing practices (Bronfenbrenner, 1970), allusions are made to the notion that teaching a peer or being taught by a peer are very potent methods of learning. In schools, the practice of having older students help younger students on a one-to-one basis is referred to as "cross-age tutoring," and the purpose of the present paper is to examine the implications of selected social-psychological theories for the design and evaluation of cross-age tutoring projects

The Possible Benefits of Applying Theory

Many persons have urged that theory play a greater role in educational research. Devin-Sheehan, Feldman, and Allen (1976) concluded a comprehensive survey of tutoring programs with one admonition:

> Unless investigators in this area make a stronger attempt to draw more directly upon the mainstream of psychological and educational theory, it is likely that tutoring research will continue to be rather fragmented, inconclusive and noncumulative. The wider use of systematic theory should lead to the formulation of research problems of greater sophistication and significance, and thereby contribute directly towards the solution of the numerous practical problems encountered in devising tutoring programs for children (p. 380).

One aspect of the application of theory to the study of natural phenomena is that theories suggest the kind of variables that should be studied. This aspect will be emphasized by constant reference to the operationalization of social-psychological concepts in terms of observable behaviors occurring in school tutoring projects. Frequently these operationalized concepts might be relevant to either formative or summative evaluation of projects or to research on tutoring. (The term "formative evaluation" refers to evaluation directed towards improving a project; "summative

evaluation" is concerned with judging the overall effectiveness of a developed project.)

Another valuable aspect of the application of theory to such practical matters as the planning of school projects is that theoretical considerations may indicate whether a project is likely to be successful, or under what conditions it might be successful. One is more easily persuaded of the likelihood of success of a project if strong theoretical reasons can be adduced as to why it should succeed. Usually such theoretical support comes in the form of specifying a process which explains how the project inputs lead to the desired outcomes. This process may be viewed as a causal chain, a set of events each of which "causes," or at least makes more likely, a subsequent event. To the extent that the cause and effect relationships have been demonstrated experimentally, the theory is supported by empirical evidence.

It must of course be emphasized that owing to the complexity of the contexts in which social-psychological experiments take place, and the impossibility of replicating contexts, the arguments are essentially arguments by analogy when we attempt to apply "basic" social science research to school programs. As a consequence, while theoretical arguments or analogies help to clarify the situation conceptually and increase confidence in the possibility of effective programs, theoretical arguments are no substitute for the implementation and evaluation of actual school programs. Only program implementation and evaluation, conducted in the framework of experimental designs that permit strong inferrences to be drawn, will enable educational researchers to assess the extent to which the processes predicted by theories actually occur and have educationally significant effects.

The Concerns of this Paper

The kind of tutoring to which this paper makes reference is primarily a kind that has been called "Learning-by-Tutoring" (see CSE Reports on Tutoring #s 1, 2, 3 and 4). Learning-by-Tutoring projects are designed to enhance the learning of both tutors and tutees by ensuring that tutors

are teaching work that they themselves need to practice. Much of what is said would also apply, however, to "Tutorial Service" projects in which the content to be taught is selected purely on the basis of the tutees' needs and tutors are rendering a service rather than achieving academic learning by means of tutoring. Throughout the paper we shall be concerned with the possible effects of tutoring projects on tutors, tutees and teachers and also with possible means of conducting both formative and summative evaluations of tutoring projects.

In Chapter II, selected areas of social-psychological research are briefly described, and concepts from these areas are applied to tutoring projects. Frequently it will be possible to show that effects that are widely reported for tutoring projects correspond to reasonably well established social-psychological processes. In other cases, theories from an area of social psychology predict effects that have not been reported in the literature on tutoring or by practitioners.

In Chapter III, many of the threads of ideas encountered in Chapter II are drawn together as a set of hypotheses that need empirical testing. These hypotheses form a basis for much needed action research into the potentially valuable process of cross-age tutoring.

CHAPTER II
ANALYSES

A few theoretical areas which the authors judged to be of most direct relevance and interest have been selected from the vast social-psychological literature potentially bearing on the subject of tutoring. The topic areas that will be considered are: bases of social influence, de-individuation, cognitive dissonance, attribution theory, conflict resolution and role theory.

The Bases of Social Influence

Much of a teacher's day is spent consciously and deliberately trying to influence student behavior. A teaching situation may thus be considered an instance of social influence: an influencing agent (the teacher) affects the cognitions, attitudes, or behavior of the target (the student) by arranging environmental conditions, through modeling, by providing reward/punishment contingencies, by supplying information, etc. Additionally, in a tutoring situation, tutees are subject to deliberate influence attempts from older students, the tutors, attempts to get the tutee to learn, to do homework and to be generally cooperative.

To what kinds of influence do young people respond, and what kinds of influence produce the most desirable long-term effects of schooling? How does a change from a traditional classroom method of instruction to a Learning-by-Tutoring method of instruction affect the bases of influence that are employed? It is these questions which guide the following discussion.

The Relative Effectiveness of Adults and Peers as Sources of Social Influence

Varied research studies suggest that while adults certainly exert some influence on youth, the power of peer influence is considerable and is

frequently more potent than that of adult teachers (Berenda, 1950). In one study, for example, peer models were found to be more effective at inhibiting adolescent boys from playing with a "forbidden" toy than either a nurturant or prohibitive adult (Grosser, Polansky, and Lippitt, 1951). Although most of this research has concerned influence between youths of the same age (peer influence), and the relative influence of peers and adults will certainly depend on many factors, nevertheless, the statement that peers often exert greater influence than teachers may be considered an appropriate generalization across a wide range of ages and backgrounds (Condry and Siman, 1968; Bronfenbrenner, 1970). This generalization has implications for tutoring. One implication is that tutors may be more effective in influencing tutees than are classroom teachers, a point made by many persons who have run or observed tutoring projects in schools (see CSE Report on Tutoring #3: A Survey of Tutoring Projects).

Additionally, among tutors, the active involvement of classmates in tutoring roles may serve to influence a reluctant tutor. Whereas in a regular classroom a miscreant may interpret the behavior of other students in a variety of ways (for example, that the other students are sitting back to enjoy a disruption rather than to wait for instruction to resume), in a tutoring situation, when other students are each intent on instructing tutees, the interpretation is less ambiguous. The message of adherence to an academic task is clearer and may more successfully induce participation. Thus peer influence may be enhanced in a tutoring project by being made clearer.

The Various Bases of Social Influence

While a consideration of the magnitude of peer influence reveals substantial power, it is of even greater interest to analyze the type of power or social influence possessed by peers as compared with teachers and to consider the implication of any differences that are found in the predominant types of power employed. A taxonomy of differing types (or bases) of social influence has been provided by French and Raven (1959), Raven (1965), and Raven and Kruglanski (1970) and is briefly described in the following paragraphs.

Coercive influence. The ability of the influencer to mediate punishment for the influencee is the basis of the effect. For instance, the student who copies the right answer to a problem in order to avoid being scolded or losing certain privileges is responding to coercive influences.

Reward influence. The ability of the influencer to mediate rewards is the basis for the effect. The child that does his work (or for that matter copies) in order to receive rewards such as praise, affection, or high grades would exemplify this means of influence.

Informational influence. The information communicated by the influencer (the agent) is the basis for the effect or the change. For example, a teacher may have successfully explained to the student why a particular procedure is desirable for solving mathematical or other problems and, by means of this information, may have influenced the student's behavior.

Expert influence. The attribution of superior knowledge to the influencing agent is the basis for the effect or change. For example, a student might accept that a particular procedure is useful in solving a problem without understanding why. He might believe that the teacher "knows best" and consequently alters his response.

Referent influence. Identification with another person or group, which serves as a "frame of reference," is the basis for the change. Thus, seeing other students doing (or not doing) homework and identifying with them may result in a similar behavior. When a student emulates an admired other, the other exerts referent influence on the student.

Legitimate influence. Accepting the right of the agent to exert influence is the basis for change. The teacher might, for example, be perceived as having the right to assign homework and to expect students to do it, thereby eliciting the anticipated behavior.

Clearly, bases of influence are interdependent rather than being mutually exclusive, and any given influencing agent may be using several bases simultaneously. Furthermore, an influencer might use differing bases at different stages in a relationship.

Tutoring programs may rely on various bases of influence to a greater or lesser extent. For example, a program in which considerable effort is expended upon training tutors to present clear, understandable instruction, accurately matched to the learner's readiness, might be found high in informational and/or legitimate influence on tutees whereas a program that deliberately selected high status students as tutors (e.g., football players) might show high scores on referent influence.

However, complexities surface as soon as one starts to operationalize general concepts. Some tutees might be more responsive to informational influence, others to referent. The susceptibility of a target to any kind of influence is dependent upon the target's characteristics. Informational influence is powerful if the target desires information; legitimate influence depends upon the target's conception of legitimacy. For the acquiescent, mores-accepting child, presenting the tutor as occupying a legitimate role may be sufficient to ensure an effective working partnership whereas for a tutee whose approach to school is aggressively rejecting, nothing less than referent power might be effective in establishing a tutoring partnership. The tutoring supervisor with a choice of 30 tutors to assign has, at least, a better chance of finding tutors with strong referent powers for difficult tutees than has the principal who must assign a single teacher to influence a group of 30 students.

In experimental work in social psychology, the kind of influence which is effective has been assessed either by varying the kind of influence applied and observing the effects or by asking the influencees to describe why they have engaged, or might engage, in the behavior being influenced. Their responses are then categorized by ratings (conducted

by persons blind to the experimental situation) or by formal content analysis. Closed response items have sometimes been provided, and a recent instrument involved cartoon completion (Raven and Goodchilds, 1975).

Raven (1974) undertook an analysis of the bases of social influence employed by teachers and students. Using a questionnaire format, the investigator asked Black, Hispanic, and White junior high school students to state the reasons why they would comply with a request such as "picking up your things that you had left around" when made by their teacher as compared with a fellow student. As might be expected, responses indicated that teachers were much higher in legitimate and coercive influence, and somewhat higher in expert influence than peers. Peers were much higher in referent influence. Somewhat surprisingly, fellow students were judged higher in reward and informational influence. Similar findings have been reported with Brazilian students (Raven, 1974).

The Relative Desirability of Various Bases of Social Influence

Assuming for the moment that we might be able to choose the kinds of influences to which students are subject, what would our choices be? Are some bases of influence more desirable and/or more effective than others? While the question of desirability raises issues of values that cannot be fully discussed here, some examination of the differing consequences and effectiveness associated with various kinds of influence is instructive and important.

One dimension along which the bases of influence differ is that of the need for surveillance. A consequence of the use of coercive influence is that it requires that the influencer exercise surveillance in order to know whether or not sanctions should be imposed. By contrast, surveillance of the influencee is not of concern to a person who is a source of referent power.

Another dimension along which the bases of influence differ is that of the longevity of the influence. Although reward-power may not require surveillance because the target person is likely to claim the reward, the influence of the reward on the behavior may cease when the reward ceases. The hoped for effects of both coercion and rewards may be short-term, being either co-terminous with the coercive or rewarding process, or in some cases showing a negative reaction following termination (Bogart, Loeb and Rutman, 1969). Coercive power is not only short-term but also requires surveillance. Furthermore, varied sources of data indicate that coercive influence in particular, has other effects which most members of this society would judge undesirable. For example, in educational settings (Jamieson and Thomas, 1974), it has been shown that coercive influence is negatively correlated with student satisfaction and learning as well as with the degree to which teacher influence transcends the classroom.

By contrast, if a person engages in a certain behavior (e.g., working in class) because a request to do so has been accepted as legitimate, the behavior is likely to continue without surveillance or contingencies as long as the behavior continues to be perceived as responsive to legitimate influence. Similarly, to the extent that information influences behavior, the influence of a piece of information does not end when the person stops supplying that piece of information. One might say the information is internalized and continues to exert influence as long as it is remembered and is evaluated as being correct.

The desirability of employing influence that leads to internalization can be argued as being in harmony with many long-term goals of education. Presumably we do not wish to produce students who study only under conditions of surveillance or for immediate rewards.

In short, it is suggested that referent power in particular, and to a lesser extent informational and legitimate bases of influence, appear to be more desirable than reward or coercive power. The first three require less surveillance, and are likely to have longer-lasting effects arising from internalization.

How may the concepts "need for surveillance" and "internalization" be operationalized in the context of tutoring programs to test predictions from theory? The need for surveillance could be measured by observing how many dyads (tutoring pairs) continue to work when a teacher leaves the room (i.e., ceases to exercise surveillance) and contrasting this with observations of the work behavior of the same students in regular classes when left unsupervised. Informal contacts with cross-age tutoring programs have provided us with indications that an outcome such as a decrease in the need for surveillance does in fact occur. For example, in one instance tutoring continued undisturbed by an orchestra practice at the other end of the auditorium. The supervising teacher commented: "I sometimes think an elephant could walk in and not be noticed." And a principal familiar with tutoring programs in elementary schools remarked that "You find teachers slipping out to chat in the hall or take a cigarette break during tutoring time." (See Appendix D in CSE Report on Tutoring #3.)

Internalization is of course an inferred state, implying a long-term change. To examine whether or not tutors had internalized some of the pro-school attitudes which enactment of a tutoring role implies, a variety of longitudinal data should be collected following a tutoring project, including records of school "discipline" problems, drop-out rates and numbers proceeding to jobs involving teaching. Many practitioners have felt that tutoring increased the interest of tutors in becoming teachers, but no data is available to date.

The Relative Effectiveness of Various Bases of Social Influence

While referent, informational and legitimate power might be desirable, are they effective? Experimental attempts to assess the utility of differing bases of social influence (Collins and Raven, 1969; Raven, 1965; Raven and Goodchilds, 1975) have yielded no simple answers regarding which is the most effective means of social influence. An illustration of the complexity involved is provided by an experiment conducted by

Raven, Mansson, and Anthony (1962). These investigators compared the relative effectiveness of expert and referent influences in the context of examining whether subjects can be influenced, through group pressures, to believe in the existence of ESP or to report having themselves received ESP messages. It was found, as predicted, that belief in the existence of ESP was most affected by expert influence, while referent influence had the greatest impact on subjects' own reports that they themselves had received ESP messages. Clearly, the effects of differing bases of influence may depend, among other things, on the particular response dimension being used to measure the effects.

While the relative efficacy of the differing bases of power is related to numerous dimensions, the theoretical proposition has been advanced--beginning with the original French and Raven (1959) taxonomy and theoretical analyses of social influence--that referent influence has the most broadly applicable power base with the most uniformly positive effects. A number of studies in noneducational settings have provided support for this theoretical proposition (Zander and Curtis, 1962; Zander, Medow and Efron, 1965; Kelman, 1958), but of particular interest here is an experimental study comparing the success of teachers using coercion-reward, referent, or legitimate-expert power in changing the behavior of students in a dyadic interaction (Millet, 1973). The demographic compositions of the dyads were systematically varied to include Black and White teachers and students and also differing student socioeconomic levels. Referent influence was found to be nearly twice as effective as the other bases of influence regardless of the student's or teacher's race or the student's socioeconomic level.

It may be that our existing educational roles are utilizing only some means of social influence to the exclusion of others, such as referent influence, that are in many respects the most desirable (Raven and Goodchilds, 1975). Whereas in a tutoring project, the referent power of peers is harnessed for the goals of the school, there exists evidence (Bronfenbrenner, 1970) that in our present educational systems, referent

influence among peers is often operating as a counter-force undermining educational goals, as many an observer and teacher can testify. Since referent influence is being used for other than educational goals, and at times against these goals, the harnessing of strong reservoirs of referent bases of influence for educational goals--such as might be accomplished via a cross-age tutoring program--might greatly aid the effectiveness and desirability of an educational program.

The topic of bases of power or social influence might usefully provide guidance for the evaluation of tutoring projects. It may be found, for example, that tutoring projects only succeed if they manage to change from the primarily coercive influence of many classrooms to other bases of influence. An examination that sought to establish, by interviews with tutees, the primary bases of influence exerted by tutors might identify patterns of influence associated with particular program outcomes (e.g., tutee learning) or program characteristics (e.g., longevity). Such an analysis could be conducted for individual tutees in a single program or on aggregated data across several programs.

It might be found, for example, that lack of perceived legitimate influence presages trouble and that high referent influence presages success in both affective and cognitive domains. If such relationships were established, analysis of bases of influence could be used during formative evaluation to monitor the program and make adjustments when trouble was foreshadowed. For example, it might be found that the influence attempt of tutors was being rejected by tutees on grounds of legitimacy. This could occur if tutees perceived that teachers or the administration or parents felt it was improper for older students to tutor younger students. (A considerable body of social-psychological research indicates that in making judgments under conditions of uncertainty, the perceived opinions of others constitute a major source of influence.) Another threat to the tutors' legitimate basis of influence occurs if the tutors do not appear to know the work they are teaching, thus calling into question their credibility as a source of informational influence and,

inevitably too, the legitimacy of their requests for work and cooperation. The indicated actions for a formative evaluator would be to assist project personnel in attempts to establish the legitimacy of the tutoring role. It may be, in general, that only when the legitimacy of the tutoring role is accepted, can the student tutor act from the basis of referent power that is so effective, desirable, and so frequently unavailable to the teacher.

Influence of Tutees on Tutors

We have been considering the tutor's influence on the tutee. But there is a mutual transaction involved, with the tutee exerting influence on the tutor. One characteristic of legitimate influence is that it is a source of power for the powerless. This is the basis of influence available to tutees. To the extent that tutees clearly need the help of tutors, they exert a legitimate influence on tutors to provide this help. Many tutors recognize tutees' needs and feel this influence acutely, remarking that, as tutors, they can give more careful attention than a teacher can, that they can spend longer with a tutee than can a teacher, etc. Indeed, many tutors have been reported as feeling bound to come to school so as not to disappoint a tutee. Frequent testing of tutees will enhance this legitimate influence if the testing shows tutors that tutees are learning from their instruction. Furthermore, when teachers take the trouble to test tutee learning and discuss it with tutors, the teachers again signal to tutors the legitimate nature of their tasks.

Effects of a Tutoring Project on the Teachers Running it

The effect on tutees and on tutors of participation in a tutoring program has been discussed. What of the effect on teachers, those who generally exert influence and exercise surveillance?

Exceedingly important is the changed influence patterns among teachers and tutors. To the extent that tutors accept the role of instructor, they are likely to identify more than previously with their teachers. This

new role for tutors thus serves to increase the referent power of teachers; tutors emulate them and empathize with them. The information power of the teacher is also increased as the tutor finds an immediate need for information. "How do you solve this kind of problem? I have to teach my tutee tomorrow." This kind of urgency replaces relatively remote needs, such as the need to get into college or function in society. Thus one likely effect on teachers is that they find tutors more eager to learn, more questioning, more cooperative than in a regular classroom.

There are, perhaps, more subtle effects on teachers' attitudes. It was suggested earlier that there should be a decreased need for surveillance in tutoring projects. If this effect occurred, would it have any impact on teachers? An experiment by Kruglanski (1970) indicated that there are undesirable effects of surveillance on the person exercising it. This investigator manipulated whether identical employee products were accomplished with or without monitoring by a supervisor. It was found that supervision (surveillance) caused distrust of the employee and the belief that it was necessary to supervise him. Presumably, the supervisor attributed the positive quality of the work to the fact that the employee was being "watched over" in one condition, whereas in the other he believed that the employee was internally motivated.

Translating this into the world of teaching, we might hypothesize that the constant exercise of surveillance that appears necessary in the regular classroom, itself causes, to some extent, a mistrust of students and a sincere doubt that students can manage themselves or exhibit motivation. Such attributions will be particularly strong with respect to low achieving groups of students who may show little interest in school during adolescence. Negative attitudes to students on the part of teachers have been widely criticized, but solutions other than general good will are rarely offered. Exhortation is unlikely to produce in teachers anything more than resentment. The Kruglanski experiment suggests, indeed, that criticism of their attitudes might seem to teachers to be a denial of their experiences.

Some persons who have run tutoring projects have noted a significant change in their own attitudes to the students who were tutors, a change induced by the observation that in the role of tutor many previously unmotivated and uncooperative students appear to become dedicated to the goals of education, working hard with tutees, showing concern for their learning and communicating eagerly with teachers for perhaps the first time. The valuable effects of such observations on the teacher has led to recommendations that, while tutoring programs may be organized by a coordinator, they should be run with the full involvement of the tutors' teachers so that teachers observe their students in tutoring roles and may change their perceptions of these students. Clearly an attempt to measure teachers' attitudes in the context of a valid experimental design in which tutoring by their students is the treatment would be a valuable piece of research.

In summary, much of the process of education is essentially an influence attempt: schools are established to provide deliberate instruction. Influence may be exerted in various ways and social-psychological theory suggests that more desirable results are obtained with some kinds of influence than with other kinds. Tutoring projects may be able to evoke situations in which referent, informational and legitimate sources of influence act on behalf of the goals of the schools, thus reducing the need for the exercise of less desirable forms of influence such as coercive power. There is also the possibility that observations of students in the role of tutors may significantly change teachers' perception of these students.

De-individuation

When tutoring involves secondary students as tutors, it may have special value because of the severe problems facing students--and their schools--in the adolescent age group. Social-psychological research on "de-individuation" is of considerable relevance here. De-individuation occurs when the person is not seen or paid attention to as an individual but is primarily "submerged" within groups (Festinger, Pepitone, and Newcomb, 1952). Within our schools, particularly beginning at the junior high school level, students are placed into an environment that is to a great extent de-individuated. Rather than attending a small local school within the community, students become part of a regional school in which they attend several different classes each day and have relatively limited contacts with any given teacher. They are largely functioning in an impersonal situation with a fairly high degree of anonymity.

A growing body of research demonstrates that conditions of de-individuation and associated anonymity can result in increased anti-social behavior. Zimbardo (1970), for instance, created a situation in which subjects' identities were known or were hidden by the wearing of masks. Groups of subjects were then given the opportunity of delivering noxious shocks to another individual (actually an accomplice of the experimenter). It was found that those subjects whose identities were hidden delivered shocks of much longer duration than those whose personal identities were clearly known. Similarly, Diener (1975) found in a field study that Halloween trick-or-treaters who were made anonymous were more likely to steal when they were in a group than were anonymous children alone or non-anonymous children in a group.

An important aspect of tutoring might be the decreased anonymity and de-individuation of students. Tutoring can be expected to lead to an increased number of relationships between secondary students and the surrounding community, an increase produced by such activities as tutors communicating with parents or delivering homework assignments and, of course, simply by their knowing the community's children--the tutees.

Cognitive Dissonance

The change in roles that results from being a tutor might be expected to have the greatest impact on those students for whom there is the largest discrepancy between the perceived meaning of the tutoring role and their belief in having the qualifications for it. In this category, relatively low achievers and "problem" students would be included. This prediction may be derived from a social-psychological theory known as cognitive dissonance.

Simply, this theory asserts that cognitions must be consistent, and that inconsistency, or dissonance, results in uncomfortable tension resulting in change designed to reduce dissonance. If a student perceived that he is disliked or devalued by authorities in a school, then being assigned a responsible role within the school would produce dissonance between the cognitions "They don't think much of me" and "They have placed me in a tutoring role." Dissonance could be reduced by the addition of other cognitions such as, "They were desperate," or by a basic change in one of the cognitions, "They do think I'm capable of doing some good things."

The need for dissonance reduction would be greatest, as indicated before, for those youngsters for whom being assigned the role represented the greatest surprise. This theory would imply that it would be particularly effective to meaningfully involve in the tutoring roles those students who at first glance seem the least likely candidates for the role.

Dissonance reduction might be expected to operate in the case of the tutee as well. If a tutee believes that "Math is for sissies and acne-faced rejects," then observing the captain of the football team, whom he idolizes, trying to teach him that very subject may generate considerable dissonance. Either the football player is a "reject" or studying math isn't necessarily limited to that class of people. Hopefully, the latter change will be used to reduce dissonance.

Attribution Theory

Attribution theory is concerned with analyzing the way people explain their own behavior and that of others. For example, if one observes students working at a particular task, attribution theory would focus on how the students, the teacher, classmates, parents, etc., would explain the fact that the students are working. Is it because they enjoy the task or because a teacher has threatened them with punishment? Similarly, if it is observed that a student succeeds at the task, is it because he or she is competent or because the task is very easy? Or perhaps the exertion of a great deal of effort was primarily responsible for the successful performance? On the other hand, the student may have simply had good luck and his or her success may largely be attributed to having "gotten lucky." It is clear both intuitively and on the basis of extensive social-psychological research that differing attributions may have profound influences on judgments made about people and situations.

Effects of Communicated Attributions

From the rather large body of data gathered to demonstrate the utility of attribution theory, we might focus for purposes of illustration on a study having some relevance to the area of social influence discussed above. Miller, Brickman, and Bolen (1975) compared differing methods of modifying the behavior of 4th- and 5th-grade inner city children with respect to the dropping of litter. One technique involved persuasion, that is, telling children what they should do, while the other involved an attribution approach, namely telling the children they possessed characteristics consistent with the desired behavior. In one experiment, children were either told that they <u>should</u> be neat and tidy or that they <u>were</u> neat and tidy students. The results revealed that the attribution treatment was more than twice as effective in reducing littering behavior, the dependent variable, than the persuasion or control conditions. This effect held both immediately after the treatment and 2 weeks later.

In a second experiment conducted by Miller et al. (1975) attribution was compared with persuasion or reinforcement communications for its effects on math achievement and self-esteem. Children, again 4th- and 5th-grade inner city students, were told they were hard workers or good performers in the attribution condition, that they should be so in the persuasion condition, that others (e.g., the teacher) were pleased with their work in the reinforcement condition, and no communication was delivered in the control condition. The results again favored the attribution treatment, which showed about 20% greater gains in math and in self-esteem. This effect too was observed immediately after the treatments (which lasted 8 weeks) and 2 weeks following the termination of the treatments.

These kinds of experiments can be seen as variants of the "Pygmalion in the classroom" experiment. The Pygmalion studies (Rosenthal and Jacobson, 1968) sought to show that inducing high expectations in teachers would raise the achievement of their students--the self-fulfilling prophecy effect. Although the original experiment was justifiably and strongly criticized (Elashoff and Snow, 1971), its impact may nevertheless have been considerable because the concept that children do well if they are expected to do well has wide appeal. What Miller et al. (1975) did can be viewed as a means of checking one step of the postulated Pygmalion effect. The high expectations of the teachers or others were communicated to the students. The experiments suggest that these communications have a more powerful effect than persuasion or exhortation. The implication is that approaches that express confidence in the child's competence are effective. Assigning the role of tutor to a student does precisely that: it expresses confidence in the student's competence. (Whether students internalize the expectations, attributing the desirable characteristics to themselves, or whether they try to "live up to" the expectations is not material here. The outcome either way is the same--changed behavior.)

It would seem that highly desirable attributions may very well be generated as a result of being assigned to a position of responsibility such

as that of tutor: "They must think I'm pretty good"; "They feel they can trust me"; "I'm the kind of person who likes to help"; "If he thinks I'm pretty good, then there must be something to it"; etc.

The attributions made for the tutor/tutee roles may constitute a central element in the success or failure of a tutoring program. This suggests a caution: if participation was attributed to lack of ability or some other negative characteristic, undesirable consequences could result. In particular with respect to the role of the tutor, the potential success of a program may to some extent derive from assignment to a role which is perceived as relatively high in status. Selecting only students who are doing poorly, who are "book worms," or who are distinguished along some dimension that would provide an unfavorable attribution, could prove detrimental. On the other hand, encouraging some of the youths who already have assumed leadership roles within the school's social system to participate in the new leadership role of a tutor is likely to further enhance the positive attribution and social influence effects associated with it. Among tutees, as with tutors, if tutoring is always applied on a remedial basis, it may suffer from tutees' unwillingness to be labeled as in need of remediation.

The use of students rather than remedial teachers as tutors probably enhances the likelihood of positive responses from tutees not only because an older student may be perceived as more attractive than an adult, but also because there may be fewer negative connotations surrounding tutoring by students as opposed to the more common remedial work by adults. Blank, Koltuv, and Wood (1972) reported extreme reluctance on the part of tutees to receive tutoring from adults who were mothers in the community, whereas many student-to-student tutoring projects have reported enthusiasm for participation (Mohan, 1972; Robertson, 1971; Hoffmeister, 1973). In evaluating or researching the effectiveness of tutoring programs, attention should be paid to the attributions that students make regarding their own and others' participation. Such attribution might well be one predictor of program effects.

The Possibility of Undermining Intrinsic Motivation with Extrinsic Rewards

It might seem that providing tutors with some concrete incentive to tutor, such as money, would add to the status and positive attributes associated with this role. This issue is considerably more complex than it might seem at first blush, and even setting aside the potential complications arising from paying students for work they are doing while in school, there are studies which suggest that such rewards could be undesirable.

An impressive series of studies has shown that under certain conditions extrinsic rewards (such as money) can undermine intrinsic interest in a task (Deci, 1971; Kruglanski, Friedman, and Zeevi, 1971; Lepper and Greene, 1975; Kruglanski, Riter, Amitai, Bath-Shevah, Shabtai, and Zabsh, 1975). While some important issues continue to be debated (Calder and Staw, 1975; Deci, Cascio, and Krusell, 1975), there seems to be general agreement that extrinsic rewards may result in the undermining of intrinsic interest (Notz, 1975).

The procedure used generally in these studies has been to offer some children a reward for engaging in a task (e.g., playing with a puzzle) that they would find intrinsically interesting while not offering others a reward for the same behavior. The result is that on a later occasion the children who were rewarded for the task show less interest in it than children who had not received a reward. In some experiments the reward has been made contingent upon success on the task (e.g., completing a puzzle), and this contingent reward condition has been contrasted with no expected reward condition. The contingent reward appears later to have reduced motivation to engage in the intrinsically appealing task, whereas the no expected reward condition did not. This suggests that the undermining of motivation by rewards occurs only when engaging in the task might be attributed to an effort to obtain the rewards.

The adverse effects of contingent rewards have been observed on both behavioral measures and self-reports of satisfaction and of desire to participate in similar future activities. It is important to note that the undermining effect has been demonstrated for varied tasks that are high in intrinsic motivation while, by contrast, for tasks low in such motivations monetary rewards have been shown to increase enjoyment (Calder and Staw, 1975). In addition, only a reward that is salient and anticipated is likely to have the detrimental effects (Ross, 1975). Furthermore, if the reward is made contingent upon some aspect of the situation other than the task (e.g., the reward is given for waiting for the experimenter rather than for playing with the toys), then the undermining of intrinsic motivation does not occur (Ross, Karniol, and Rothstein, 1976).

The most widely supported explanation of the finding that extrinsic rewards reduce intrinsic motivation is based on attribution principles. Briefly, this explanation suggests that the offering of a reward for engaging in a task results in a person's explaining his own behavior (just as he would someone else's) in terms of the reward rather than the task itself (Kruglanski et al., 1975). In other words, the previously interesting task is perceived as an "instrument" used to gain an exogenous consequence, and behavior and motivation are organized around the goal of receiving a reward.

One recent study by Lepper and Greene (1975) may be worthy of notice because it not only examined the effects of extrinsic rewards but also the effects of surveillance, a variable referred to earlier in discussing bases of influence. Unobtrusive measures of subject's interest level taken two weeks after the experimental manipulation revealed that (a) as in previous studies, children who had been offered a reward for participating in a novel, interesting activity showed less interest in it than those who had engaged in the activity without expecting a reward, and (b) subjects who had been placed under surveillance showed less subsequent interest than those whose behavior had not been monitored.

Gabarino (1975) reports a study of the effects of contingent, anticipated rewards on cross-age tutoring. The subjects were girls in an elementary school, with 5th- and 6th-graders tutoring 1st- and 2nd-graders. The tutors instructed the tutees in a game-like task which involved the matching of nonsense syllables. In one condition, the tutors were offered a contingent reward; that is, they would be given a desired prize if the tutee learned the game well. In the other condition, no contingent reward was offered. The results were quite dramatic: the contingent reward condition resulted in more than double the number of tutee errors (20.4 vs. 9.4); furthermore, "blind" observers rated the contingent reward condition as generating much more criticism and demands, while the no reward condition had a considerably more positive emotional atmosphere. It must be noted that a non-contingent reward condition--a reward just for tutoring regardless of tutee achievement--was not included.

While a cautionary note must be sounded prior to generalizing from short-term laboratory studies to long-term school settings, these data nonetheless require careful consideration. Providing monetary rewards for tutoring may very well interfere with desirable attributions such as those involving enjoying the task or wanting to help. Furthermore, the tutee's attribution as to the causes of the tutor's helping behavior may play a significant role in determining the amount of referent influence which is available to the tutor.

In general, practitioners have not felt that payment for tutors was necessary (see CSE Report on Tutoring #3), but it must be pointed out that few practitioners have had the option of paying tutors or any experience with paying tutors. Hoffmeister (1973) found payments extremely valuable as a means of maintaining high effort after initial enthusiasm had worn off. While the presence of some negative effects--such as underminded intrinsic motivation--have been rather well established in experiments, the magnitude and importance of these effects cannot be readily stated. The actual net effects for a tutoring project will need to be established by experiments and may vary with the age and

other characteristics of the students involved. It is clear from theoretical considerations that whether or not the student finds tutoring intrinsically motivating should affect the impact that monetary rewards have. As yet, however, social science theories only point out possibilities; they do not translate directly into firm conclusions.

"Forced Compliance" Effects

We turn now, while still dealing with the area of attribution theory, to the literature on "forced compliance." Forced compliance is a term applied to the experimental manipulation of obtaining almost a hundred percent compliance with an experimenter's request while leaving the subjects with an impression of free choice. A better term would be "subtly induced compliance." It has been shown that under some circumstances, compliance with a request for counter-attitudinal behavior leads to a later shift in attitude. Experiments in this vein have been termed forced compliance experiments.

Within the present context, students who have negative attitudes towards the "system" but become agents of it through assuming roles as tutors, have adopted roles inconsistent with their attitudes. Consequently it can be expected that this enacting of a counter-attitudinal role will sometimes result in significant attitude changes. Explanations for the attitude changes can be drawn from attribution theory or from cognitive dissonance postulates. The attribution theory explanation (Bem, 1967; Nisbett and Valins, 1971) suggests that attitude change occurs when the subjects, viewing their past counter-attitudinal behavior, infer from it that their attitudes must be consonant with that behavior, i.e., they attribute the cause of their behavior to their own attitudes. (Such an inference is not made, however, if there is apparent justification for the counter-attitudinal behavior in the form of reward, or if the behavior is seen as trivial, inconsequential or not freely chosen.) The explanation involving the theory of cognitive dissonance suggests that attitudes are adjusted, following counter-attitudinal behavior, to relieve the discomfort of the dissonant cognitions that while holding an attitude the subject behaved in a manner contrary to that attitude.

The research data derived from laboratory and field experiments reveals that counter-attitudinal role taking results in attitude change only when subjects (a) feel personally responsible for what they did, (b) receive little direct financial reward, and (c) believe their actions have significant consequences (Collins and Hoyt, 1972). Thus it would seem that if a situation was created whereby students who acted as tutors perceived that they had some choice in the matter, that they were not participating primarily for an extrinsic reward, and believed that their actions "made a big difference," then it would be anticipated that being a tutor would bring about considerable attitude change among students who were originally negative towards school tasks.

Attribution Theory and Achievement Motivation

One additional line of attribution research is worthy of mention because it may have implications for the training of tutors and because it points to possibly long-term effects of tutoring on achievement motivation. Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1971) and Weiner, Nirenberg, and Goldstein (1976) have analyzed the attributions made for success/failure experiences and their relevance for achievement striving, affective responding in reaction to successes or failures, and the perseverance in the fact of failure.

To illustrate the last of these effects, we might consider an experiment by Dweck (1975) who worked with school-age children whose performance would severely deteriorate following failure ("learned helpless children"). She compared the efficacy of two differing treatments, a Success-Only condition in which children were carefully taught and met only with success, and a Re-Attribution condition in which subjects were taught to explain their failures as due to lack of sufficient effort and to use failure as a reminder to work harder and persevere. On the dependent measure, she found that following treatment, those children who had been trained in making the lack-of-effort attributions did not show any deterioration effects following failure experiences, and in fact, showed slight improvement following failure. Subjects in the other conditions

continued to show marked adverse effects following failure. Remarkably, the desirable effects of attribution training had a beneficial generalization to students' performance within their classes some time after the experimental treatment had been completed.

Weiner (1974) has suggested that "the growth of achievement motivation is contingent upon the learning of cognitive structures which represent the causal importance of effort" (p. 209). In other words, high effort is associated with a belief that high effort pays off. When tutors teach on a one-to-one basis, they will presumably observe the role of effort in achievement, especially if their training alerts them, or predisposes them, to attribute success and failure to effort levels. Thus it is possible to conjecture that the process of tutoring could enhance the achievement motivation of tutors and, with appropriate training, tutors could affect re-attribution training with tutees. The one-to-one nature of the interaction can prove very valuable in training desirable attributions for both tutee and tutor which may generalize to other success/failure situations.

There may be a close parallel between tendencies to attribute success and failure to effort as opposed to luck, and a tendency to "associative responding" (Achenbach, 1970). When children rely excessively on superficial associations rather than on their own reasoning, they are said to be associative responders. Measures of associative responding, employing a multiple-choice analogy test, have been found to be as strongly correlated with achievement test scores as are IQ scores (Salomon and Achenbach, 1974). Salomon and Achenbach (1974) showed that both being a tutor and receiving tutoring with materials designed to reduce associative responding lowered the tendency to associative responding among seventh and fifth graders in a large urban school system. To what extent the effect was due to the act of tutoring or being tutored and to what extent the effect was due to the materials used is a matter calling for further research.

Research is ongoing into what might be termed "non-cognitive" determinants of cognitive achievement, using the term "non-cognitive" as Jencks (1972) used it, to indicate traits not measured by the usual achievement or ability tests. These possible non-cognitive determinants include such characteristics as locus of control (found by the Coleman Study to be related to achievement), tendency to associative responding, and success/failure attribution tendencies (e.g., the Intellectual Achievement Responsibility Scale--Crandall, Katkovsky and Crandall, 1965).

Although strong conclusions are not yet available, there is a widespread impression that some of these variables may lead to a better understanding of achievement behavior and general occupational success. As Jencks (1972) put it,

> ...neither parental status nor IQ scores explains most of the variation in occupational status.... The evidence...suggests that non-cognitive attributes may play a larger role than cognitive skills in determining economic success and failure. The evidence of our senses tells us that non-cognitive traits also contribute far more than cognitive skills to the quality of human life and the extent of human happiness. We therefore believe that the non-cognitive effects of schooling are likely to be more important than the cognitive effects (p. 131 & p. 134).

If the role of tutor, dramatically different as it is from the passive role of a recipient of instruction, provides a means to affect some of these vital non-cognitive traits, then it is highly important that this be established and utilized, particularly in projects designed to assist students whose low levels of achievement are thought to derive from various environmental disadvantages.

Attribution theory, in summary, suggests that a source of strong effects in tutoring projects might be the message of confidence that students receive when teachers assign them to responsible roles. Cautions are suggested regarding the use of tutoring exclusively as a remedial program and regarding payments to tutors, but firm conclusions cannot be applied

from research studies directly to school programs. For students disaffected with regular schools, the role of tutor is somewhat counter-attitudinal and experiments in the "forced compliance" genre predict that, given specified conditions, attitude change in favor of schools could be expected to occur. Finally, various characteristics relative to how students attribute success and failure, and consequently how much reliance they place on their own reasoning and how much achievement motivation they manifest, might be affected by enactment of a role such as tutoring.

Conflict Resolution and Role Theory

Social-psychological research focusing on the resolution of conflict provides some insight into the positive effects that tutoring programs may have in attenuating (a) conflict among students and (b) conflict between students and the "system." The "Robbers' Cave" experiment of Sherif and Sherif (1969) provides a useful illustration of the dynamics of inter-student conflict generation and resolution. Subjects were 11- and 12-year old boys, initially strangers to one another, who came to the same summer camp. Experimental manipulations were introduced as a normal part of camp activity without the boys' awareness that they were participating in an experiment. Initially, two separate groups were formed some distance from each other and were allowed to develop cohesiveness through the creation of situations that elicited intragroup cooperation and involved interdependence (e.g., overnight camping excursions). Later, the two groups were brought together in situations that elicited intergroup competition (e.g., points were given in tournaments and contests to the group that beat the other). This situation resulted in considerable conflict and hostility, much in-group bias and out-group denigration. Whereas differing strategies were attempted to resolve the conflict, the one that proved successful involved the creation of super-ordinate goals, that is, compelling goals for both of the groups that could only be achieved through their combined efforts. Working towards a goal was far more effective in reducing conflict than pleasure activities offered jointly, for example.

If tutoring programs are instituted in part to reduce inter-group conflict (e.g., between students of differing ethnicities or belonging to different gang areas), then the crucial task, the "Robbers' Cave" experiment implies, is to create acceptable super-ordinate goals. How does one achieve goal acceptance? Are some goals more acceptable than others? Clearly this approach leads us back to considerations of the perceived legitimacy of the tutoring situation.

Cognitive goals are probably the most widely accepted goals of schooling, and, where taken seriously, might provide the super-ordinate goals that lead to reduced group conflicts. Even if the principal aim of a project was to reduce intergroup conflict (i.e., if there was a non-cognitive goal), a project focused on cognitive goals, such as math or reading skills, may be most effective because the task is accepted as a legitimate school activity and thus serves to unite the group in a common effort. Several existing tutoring projects have already been explicitly created to reduce inter-group conflicts (see CSE Report on Tutoring #3).

Turning to the student/system conflict, it must be noted that a tutoring relationship which requires the cooperation of tutor, tutee and the teacher focused on the task of effectively teaching the tutee, may serve to create a super-ordinate goal which alters the "we" vs. "they" perception common among differing age levels and between students and staff.

Further hope for the alleviation of student-staff tensions is provided by an interesting finding that has emerged from social-psychological research, the finding that assuming the role of another, or role-taking, is an extremely potent technique for reducing interpersonal conflict. For example, Bohart (1972) compared the efficacy of differing techniques in reducing the anger experienced by undergraduate females. He found that on both behavioral and self-report indices, playing the role of the person who had provoked them was clearly more effective than the other three techniques, namely, expressing their feelings to the provocator, intellectual analysis of the provocator's perspective, and a control condition. Similarly, role-taking has been shown to increase empathy with another (Stotland, Sherman, and Shaver, 1971).

We would thus expect that when students take on a teaching role by acting as tutors, this would serve to increase tutors' empathy and understanding of their own teachers. Such a process is indeed frequently reported by observers of tutoring programs, and by tutors themselves. As one tutor put it, "Now I know how teachers feel when we act up." In view of the fact that "discipline" has shown up on Gallup polls year after year as the most frequently mentioned problem for schools, this "teacher empathy" or conflict resolution effect, if established, could be a major important outcome of tutoring.

CHAPTER III
CONCLUSIONS

In Chapter II we explored links between some rather well supported social-psychological theories and a practical classroom innovation: cross-age tutoring. This attempt to examine the application of social-psychological theories to educational practice leaves two dominant impressions.

First, many of the processes that practitioners and observers of tutoring programs report informally can be seen as corresponding to established effects in the field of social psychology. These processes indicate substantial potential for cross-age tutoring as an intervention designed to produce motivation, behavior consonant with the goals of schools, achievement and satisfaction in both tutors and tutees, but especially in tutors.

Second, the extent to which various established effects in social psychology do in fact occur in actual school tutoring projects, and with what magnitude of effect, is a topic in urgent need of research. Many of the predicted effects such as enhanced commitment to schooling, greater empathy for teachers and improved achievement are vitally important to beleaguered inner-city schools attempting to improve the attainment levels of adolescents who are not exhibiting academic motivation. If tutoring lives up to the promise that is apparent from theoretical considerations and from the reports of practitioners, then it could indeed vastly improve the lives of many students and many teachers.

In the following paragraphs a few of the topics in need of research are briefly summarized. These summaries will remind the reader of topics discussed in the body of the paper. However, whereas the bulk of the paper was organized under topic areas from social psychology, the summaries below are organized by hypotheses that need to be tested,

hypotheses regarding both project outcomes and intervening processes, and including possible methods of evaluation. The list is representative, not exhaustive.

Hypotheses Needing Empirical Testing

1. Main attitudinal effects of the role of tutor. Enacting the role of tutor produces positive changes in attitudes towards school and an increase in empathy with teachers. (These effects are predictable from the literature in forced compliance, cognitive dissonance and role theory. Detection should be attempted by both immediate measures and longitudinal follow-up studies. For example, given randomly selected groups of students that do or do not serve as tutors, how are these students perceived by teachers and how do the students report their own attitudes (a) during the time some students are acting as tutors and (b) subsequently?)

2. Long-term effects of the role of tutor on cognitive functioning. The experience of working as a tutor alters some important characteristics of a student's behavior in learning situations and can thus be expected to result in long-term improvements in academic achievement. (If either the process of observing learning in the tutee or of training to be a tutor affects tutors' attributions regarding academic success or failure, these effects might generalize to affect such characteristics as achievement motivation, locus of control, etc. Tendencies to excessive dependence on superficial cues--"associative responding"--may also be reduced by tutoring, though this may require special materials.)

3. Effects of tutoring on social relationships. Cross-age tutoring programs in schools lead to a greater number of friendships and acquaintances within the school's community and thus reduce problems resulting from de-individuation. (Anonymity is one aspect of de-individuation. Measurement of the diffusion of acquaintance in a community is difficult but casework contrasting students who have

participated in tutoring with equivalent students who have not could provide a starting point.)

4. Social effects of tutoring on groups. Tutoring projects can significantly reduce inter-group conflicts. (In a situation of interracial hostility, for example, how do the results of implementing cross-age tutoring projects compare with the results of multicultural studies or other direct attempts at improving "race" relations?)

5. ATI's and the role of tutor. The role of tutor has particularly beneficial effects on those students who are most alienated from the traditional classroom. (This aptitude-treatment interaction --ATI--hypothesis, is predictable from literature on forced compliance and cognitive dissonance. If tutoring is a method that reaches the otherwise unreachable students, it is a very valuable method indeed. Do students for whom the tutoring role is most dissonant with their previous self-perceptions show greater attitude change as a result of performing the tutoring role than do students who readily see themselves as tutors? To what extent does the voluntary or non-voluntary nature of a tutoring project affect these attitude changes?

6. Effects of tutoring on teachers' expectations. The experience of seeing students in tutoring roles alters the perceptions of these students by teachers. (Theory suggests that attributions change when surveillance is not practiced, and this along with other subtle effects may lead to changes in teachers' expectations that could not be accomplished by exhortation.)

7. Training of teachers and of tutors. The training of teachers and tutors can be improved by designing the training with reference to social-psychological theories. (Is it possible, for example, to train tutors to employ desirable bases of social influence, or is it more effective to pair tutors and tutees on the basis of kinds of

social influence each is likely to employ or respond to? This is a training vs. selection issue.)

(The literature on the training of tutors is almost entirely at the level of unsubstantiated exhortation at the moment. There is wide agreement that tutors need training, but no studies have experimentally manipulated the kind of training to examine resultant differences in tutor effectiveness or tutor or tutee satisfaction. Are social skills or "methods" training procedures more effective if derived, to some extent at least, from the findings and concepts of theories rather than from the best judgment of charismatic practitioners?)

The literature on bases of social influence and in re-attribution training might be especially relevant in designing training procedures.

8. Process studies of bases of influence. The bases of social influence employed in a tutoring project differ from those employed in a traditional classroom and result in less need for surveillance and greater internalization of school norms.

9. Formative evaluation. Measurements of intervening social psychological variables--such as bases of influence, attributions, perceived and enacted roles--can be used to predict success or failure of a project on various outcome dimensions. (The measurable characteristics that signal the ambience of a project may well be social-psychological in character. On the other hand, such measurables as frequency of testing or abundance of materials may be more predictive of project success. Examination of a variety of kinds of variables might identify those that presage success. Attempts to manipulate identified variables by training or resource allocation would then be required.)

10. The question of payment of tutors. Payment for tutors is generally unnecessary and is in some instances undesirable. (If payment of tutors is feasible, as a matter of policy, evidence of the possible effects should be collected from a variety of sites and situations before decisions are made as to whether or not to encourage the practice. Does payment undermind intrinsic motivation, lead to less desirable attributions and inhibit attitude change, as predicted from social-psychological studies of over-justification and forced compliance? Are these negative effects of negligible magnitude compared with positive effects? How does the use of payments affect the perceived bases of influence in a project?)

11. Process studies of influences on tutees. In both academic and non-academic areas, peer-group or cross-age tutors obtain more positive responses from tutees than do adult tutors. (Such effects, predictable to some extent from the literature on role models and peer-group influences, may vary with the age of the tutee.

How does the use as tutors of adult aides or volunteers differ from the use of older students as tutors? Do adults employ different bases of influence? Are tutees more communicative with cross-age tutors? Are tutees more likely to resist tutoring as being a stigma--labelling them as "dumb"--if adults rather than students are tutors? If the hypothesis is supported, the expense and trouble of recruiting adults to provide remedial instruction on a one-to-one basis may be counter productive and students may be seen as one of a school's greatest resources.)

What value is there in applying theoretical constructs, such as those instanced in this paper, to something as practical as cross-age tutoring? Will this exercise and other similar efforts to conceptualize school programs as instances of sociological, psychological, anthropological or social-psychological theories actually lead to cumulative knowledge and to the solution of material problems? It remains to be seen. Answers

will have to await numerous empirical tests designed in a framework of theoretical concepts. But if social scientists can have at least some confidence in the uniformity of people's needs and motivations, that is, if some generalizations are possible, then the approach is promising.

Theories suggest generalizations. Further, they provide taxonomies of variables and postulated causal relationships between them. These may assist in research and evaluation in school programs. The concept of basing evaluation techniques on a model, theory, or philosophy underlying a program--letting that model, theory, or philosophy of how a program is supposed to produce effects determine the choice of variables that an evaluator selects for study--has been called theory-based evaluation (Fitz-Gibbon and Morris, 1975) and as yet has few exemplars.

Since tutoring represents a change in the social-psychological context in which learning is supposed to occur, it would seem reasonable to attempt some theory-based evaluations of tutoring programs utilizing social-psychological theories. The variables identified by such theories --variables such as bases of influence, the need for surveillance, attributions, and attitudes such as teacher empathy--appear to capture the practitioner's view of tutoring in a richer way than the traditional variables employed in educational evaluation and may flag the crucial processes that determine project success or failure. Attempts to study tutoring from the perspective of social-psychological theories may lead us to agree with Dewey that a good theory is the most practical of things.

Reading About Tutoring

The following CSE Reports on Tutoring are available from the Center for the Study of Evaluation, UCLA Graduate School of Education, 145 Moore Hall, Los Angeles, California 90024.

A. The Learning-Tutoring Cycle: An Overview

An overview of the entire project and recommendations for actions which are designed to put the ideas of this study to the test--to see if the Learning-Tutoring Cycle can indeed significantly improve the educational attainment of disadvantaged students.

#1. Setting up and Evaluating Tutoring Projects

A listing and explanation of decisions that must be made at each school site when a tutoring project is started. Pros and cons for each decision are presented for discussion. A step-by-step outline of evaluation activities is included.

#2. Tutoring and ESEA Title I

A guide to setting up a tutoring project that conforms to Title I requirements and benefits both secondary and elementary school students. Of particular interest to Title I planners, parents, teachers and district personnel.

#3. A Survey of Tutoring Projects

A nationwide survey of tutoring projects and a description of site visits to some existing tutoring projects.

#4. Tutoring: Some New Ideas

Description of a specific approach to tutoring in which the focus is on the learning and motivation of the tutors. Included also are ideas on expansion of tutoring to provide significant educational alternatives, as in a School-Within-A-School project. The reactions of teachers to the ideas are documented.

#5. An Analysis of the Literature on Cross-Age Tutoring

A literature review that examines both laboratory studies and in-school programs to identify important issues in tutoring.

#6. Tutoring and Social Psychology: A Theoretical Analysis*

An examination of tutoring from the perspective of social psychology. Presents operationalized hypotheses that researchers might test.

*This report you are presently reading

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